Convert Lower Case to Upper Case

If you have ever had difficulties comparing two strings where someone has accidentally used the shift key, James R. Reed of Dallas, Texas, has a solution. Mr. Reed has provided us with a short subroutine which will check each letter in a string variable to ensure that it is upper case. His subroutine is:

```
1000 A = LEN(I$):O$ = "":IF I$ = ""
     RETURN
1010 FOR B = 1 TO A
1020 C = ASC(MID$(I$,B,1))
1025 IF C>95 THEN C = C−32
1030 O$ = O$ + CHR$(C)
1040 NEXT:RETURN
```

To use the subroutine, simply set the string you want to test equal to I$ and call the subroutine. When you return from the subroutine, set your original string equal to O$. Like this:

```
530' THE LINE BELOW WOULD BE IN
540' THE MAIN PROGRAM
550 INPUT A$
560 I$ = A$:GOSUB 1000:A$ = O$
570' THE REST OF THE PROGRAM
     FOLLOWS
```

Fix for Double Precision Subroutine Package

If you are using our double precision subroutine package, catalog number 26-1704, there are two misprints in the manual. The first deals with natural logarithms. On page 3 of the manual, you are told that the calling procedure is: GOSUB 40400 . This should be changed to: GOSUB 40100 . On page 6 of the manual hyperbolic cosine is misspelled as: hypobolic cosine.

A third more serious problem deals with the natural logarithm subroutine. If you use the subroutine with numbers which approach 1 (one), the logarithm (which approaches zero) will have an induced error. This error may be corrected by changing line 40100 to read:

```
40100 Z2 = LOG(Z):I0 = 0:IF Z<1 THEN
      I2 = −1:Z = 1/Z ELSE I2 = 1
```

Make this change to the double precision package and to any program you may have inserted the natural logarithm subroutine into. Be sure that you save the corrected program onto tape using CSAVE.

Copy Graphics to the Lineprinter

If you have ever had a graphic display, one which contains only graphic characters, and you wished there were a way to copy that display using your line printer, Steven M. Thorpe has sent you a solution.

Mr. Thorpe's subroutine is as follows:

```
3000 ' SCREEN GRAPHICS HARD
     COPY GENERATOR
3010 '
3020 FOR X = 15360 TO 16383 STEP 64
3030 A = 1: B = 2: C = 1
3040 FOR K = X TO X + 63
3050 IF((PEEK(K) − 128) AND A) = A
     THEN LPRINT"#";:GOTO 3070
3060 LPRINT" ";
3070 IF PEEK(K) = 32 GOTO 3090
3080 IF((PEEK(K) − 128) AND B) = B
     THEN LPRINT"#";:GOTO 3100
3090 LPRINT" ";
3100 NEXT K
3110 LPRINT" "
3120 ON C GOTO 3130,3140,3150
3130 A = 4: B = 8: C = 2: GOTO 3040
3140 A = 16 : B = 32: C = 3: GOTO 3040
3150 NEXT X
3160 RETURN
```

If you need a sample program to test this with, try the following:

```
10 DEFINT I,J
20 CLS
30 FOR I = 0 TO 33
40 FOR J = 0 TO 50
50 A = INT(RND(0) + .5)
60 IF A = 1 THEN SET(J,I)
70 NEXT J,I
80 GOSUB 3000
90 END
```

A Radio Shack® First! Real Estate System

Radio Shack is proud to introduce the first of our TRS-80 applications programs for specific industries. Volumes I, II, and III of our Real Estate system are now available! This software comes on cassette and operates on a 16K Level II TRS-80. A printer is optional, although recommended.

Volume I — Mortgage Payments and Mortgage Balance Calculation
Mortgage Amortization
Wrap-around Mortgage
Yield and Interest

Volume II — Compound Interest
Rate of Return
Resale Analysis
Stepped Income Analysis

Volume III — After Tax Capitalization Rate
Income and Expense Projection
Present Worth of Variable Income
Appreciation and Depreciation for Yield Calculations

All of these programs will produce printed reports, but they will also work with video output only.

The price of each of these packages is $29.95. Catalog numbers for the three volumes are 26-1571, 26-1572, and 26-1573, respectively. More in this series will arrive over the next few months.

Computer Service Has Moved!

Effective September 10, 1979, Radio Shack Computer Services is located at:

**900 Two Tandy Center
Fort Worth, TX 76102**

Also, Computer Services now has an inward WATS line for Texas customers! If you live in the state of Texas and need to call Computer Services, call:

1-800-772-5914

Outside Texas the number is still:

1-800-433-1679

Accessories for Your TRS-80™ Computer

SAVE ON PRINTER INTERFACE CABLES

Back in May we told you about the "Printer Interface Cable," which (for just $79.00) allows you to connect the 26-1150, 26-1152, or 26-1153 printer to your Level II Keyboard without the Expansion Interface Well, that's not the end of the story.

In addition to the 26-1411 (the one described in May), there is now a "Line Printer II Interface Cable" (cat. no. 26-1416) which does the same job for our lower priced Line Printer II (described in last month's Newsletter).

To make all of this even better, the price of both of these cables has been reduced to only $59.00. Now the cost of connecting a printer to your system is lower than ever before.
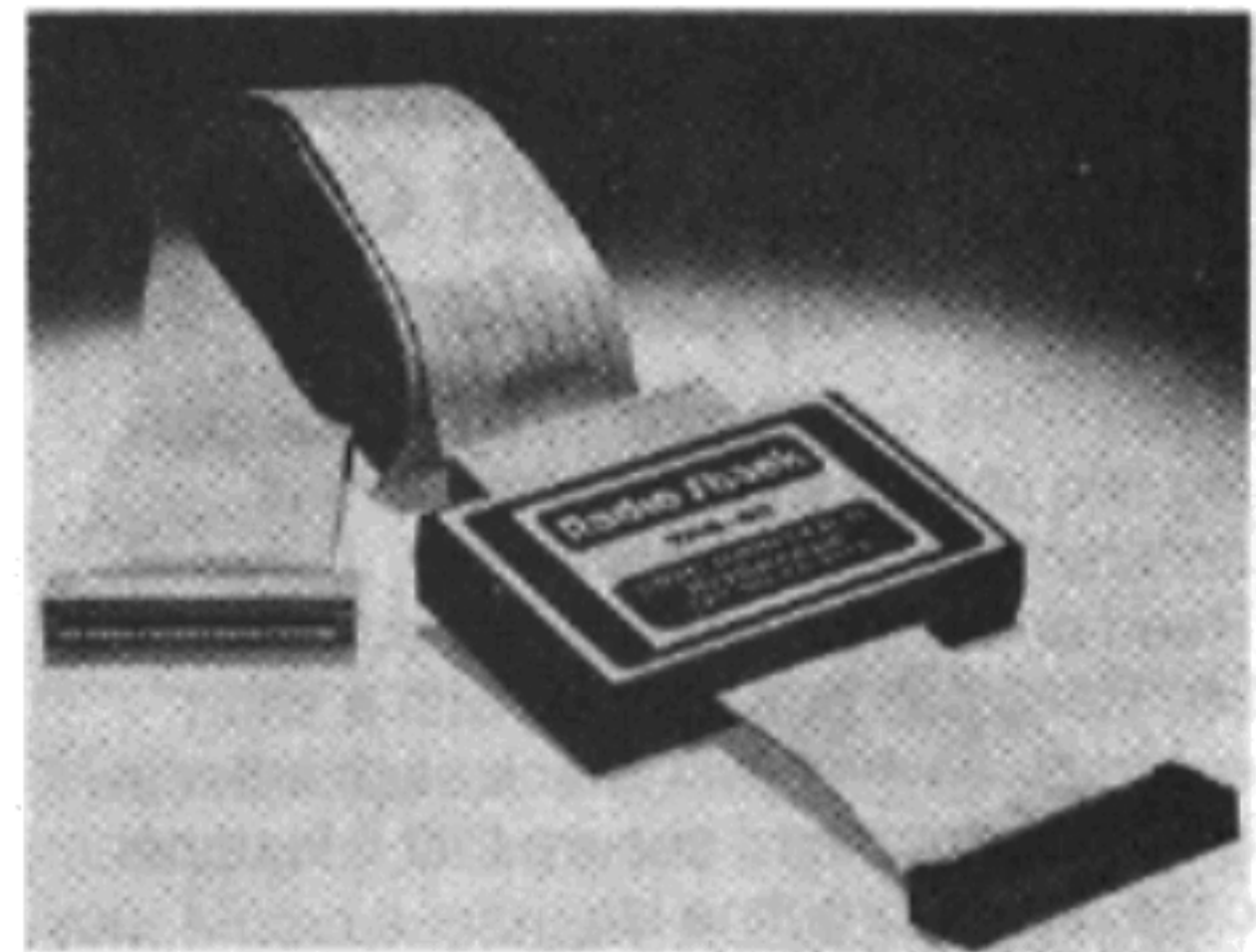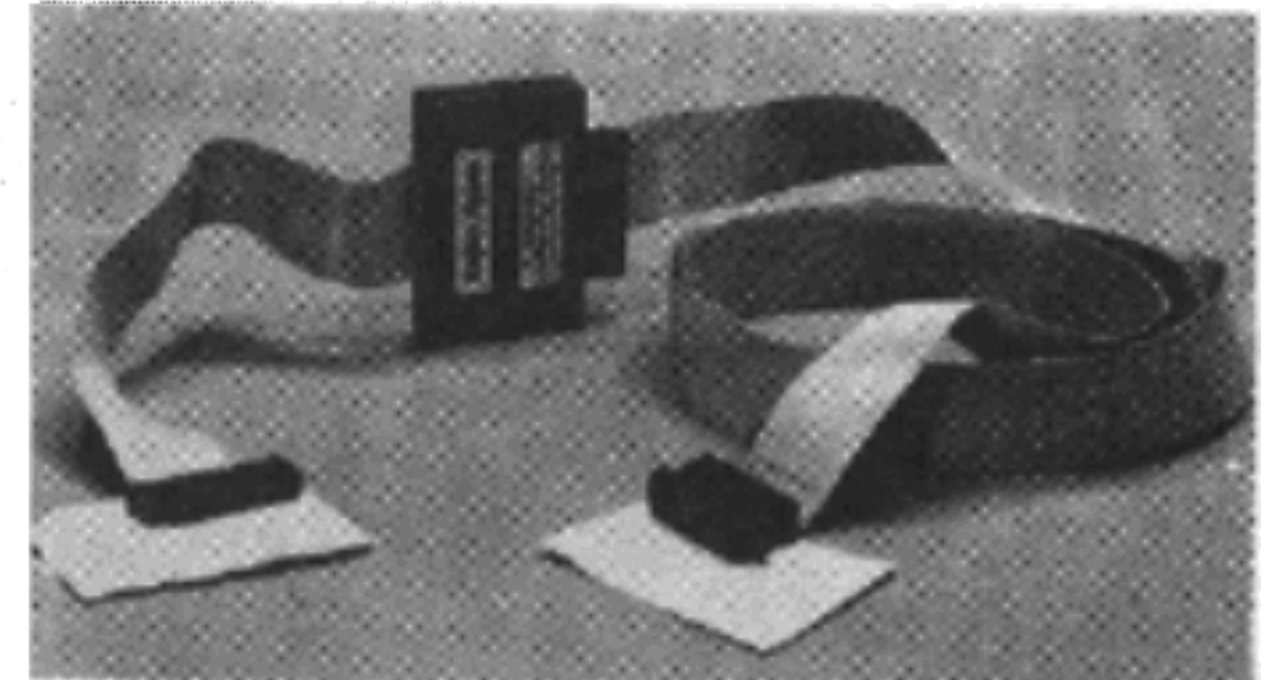
Remember though, if you plan to add a disk system or expand your R.A.M. beyond 16K, you should have the Expansion Interface.

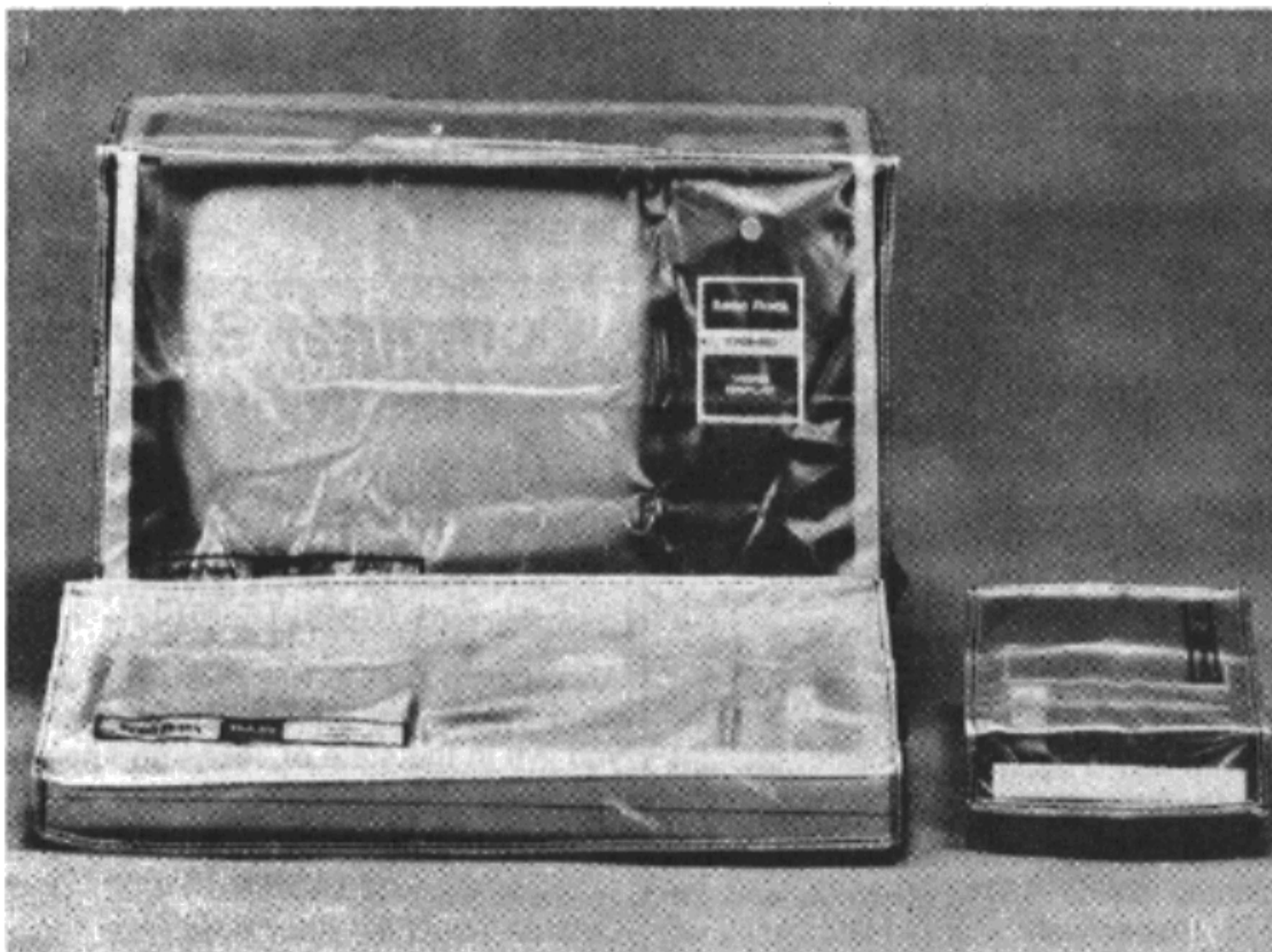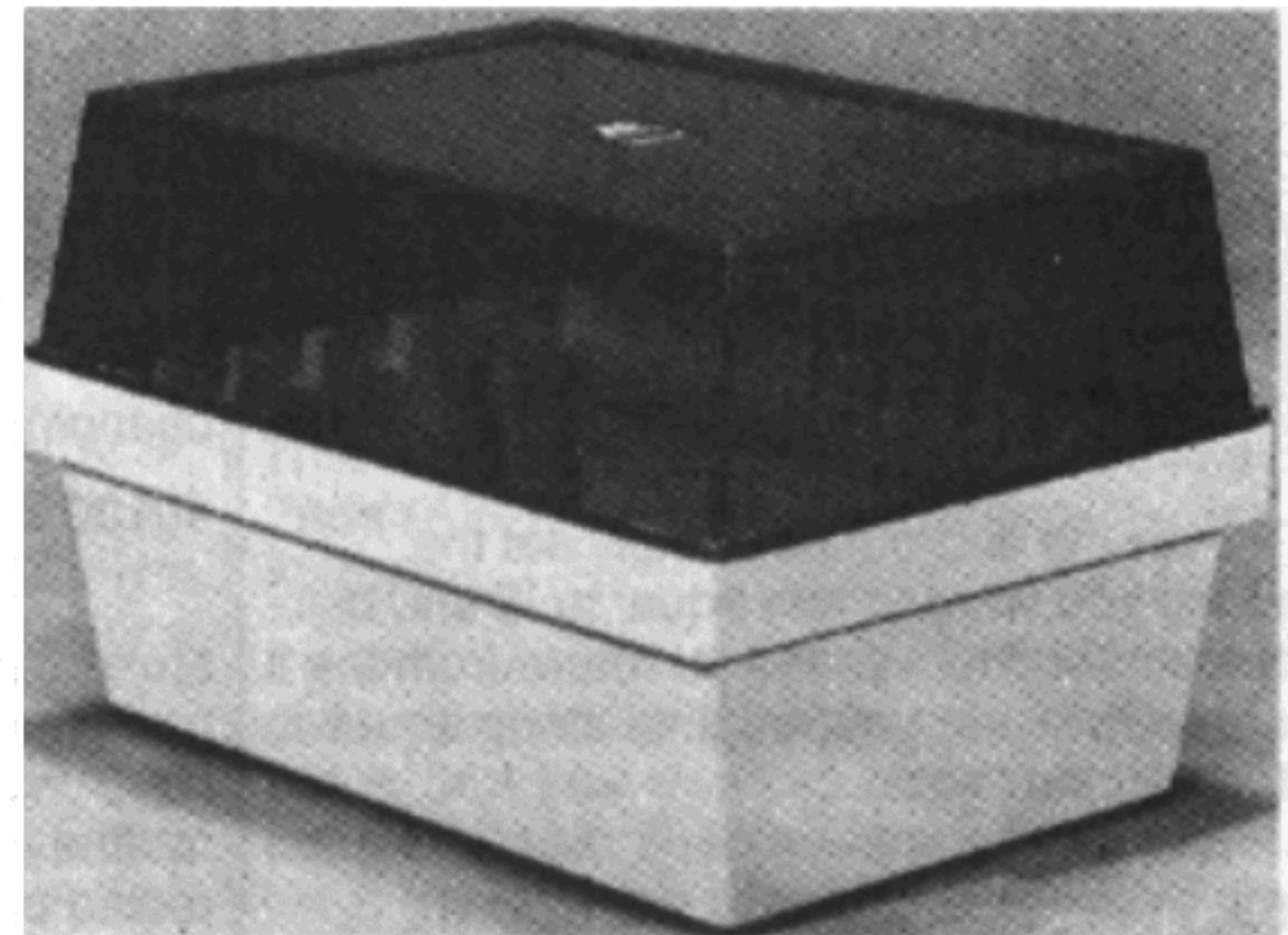**Printer Interface Cable #26-1411**

Were $79

Your Choice $59

Line Printer II Interface Cable #26-1416

Get Organized with Radio Shack's New Diskette Storage Boxes!

All you disk users can throw away your old shoe boxes! Radio Shack's new Diskette Storage Box holds 50 mini-diskettes, with dividers to keep them organized properly. You also get a long divider which allows storage of cassettes instead of disks. It's an attractive off-white molded container with a smoke gray cover.

Diskette Storage Boxes, Cat. No. 26-1450 . . . . Just $19.95.

TRS-80 Dust Covers

Many of you have asked for dust covers for your systems, and now we have them for you. Our covers are made from high quality vinyl, and have the TRS-80 logo printed on each one. Each cover fits like a glove. It looks good, and it keeps out the dust. The keyboard cover has a flap in the back, which can be tucked in to leave the cooling vents clear. This way, you can cover the keyboard while the power is on.

The "System Cover" set includes one cover each for the keyboard, video monitor, and cassette recorder. Available now are:

26-501 System Cover Set $7.95

26-502 Set of 2 Disk Drive Covers $5.95

26-503 Printer Cover $5.95
(fits either 26-1150 or 26-1152 printers).

Radio Shack's dust covers are inexpensive, attractive, and effective. They also make a nice gift!

How Your Model I Disk Space is Used

There have been many questions concerning the use of space on a disk by the Disk Operating System. A chart outlining the basic units and their relationships is shown below (Figure 1). A visualization of the diskette is shown in Figure 2. A few other things to be aware of are:

1. A physical record is defined as one Sector.

2. A Granule is the smallest amount of space allocated by TRSDOS, and is five Sectors or ½ of a Track.

3. All TRSDOS Granule allocations are made at the time of write, not when the file is created.

4. Logical record length is 1 to 256 bytes only. Your logical records may be defined any length up to 256.

5. Once a file is opened with a specific logical record length, the length is fixed until the file is closed.

DISK INSTRUCTION COURSE

Another new software item is our Disk Instruction Course. It is designed to guide you step-by-step in the use of the Disk Operating System and Disk BASIC. It's a must-get package for first-time users. The course is divided into several parts. Each part provides detailed instructions about a particular feature of the system. There are tests at the end of some parts to allow you to check your progress.

The Disk Instruction Course allows you to set your own learning pace. You can stop the program at any time and return to a particular part of a lesson.
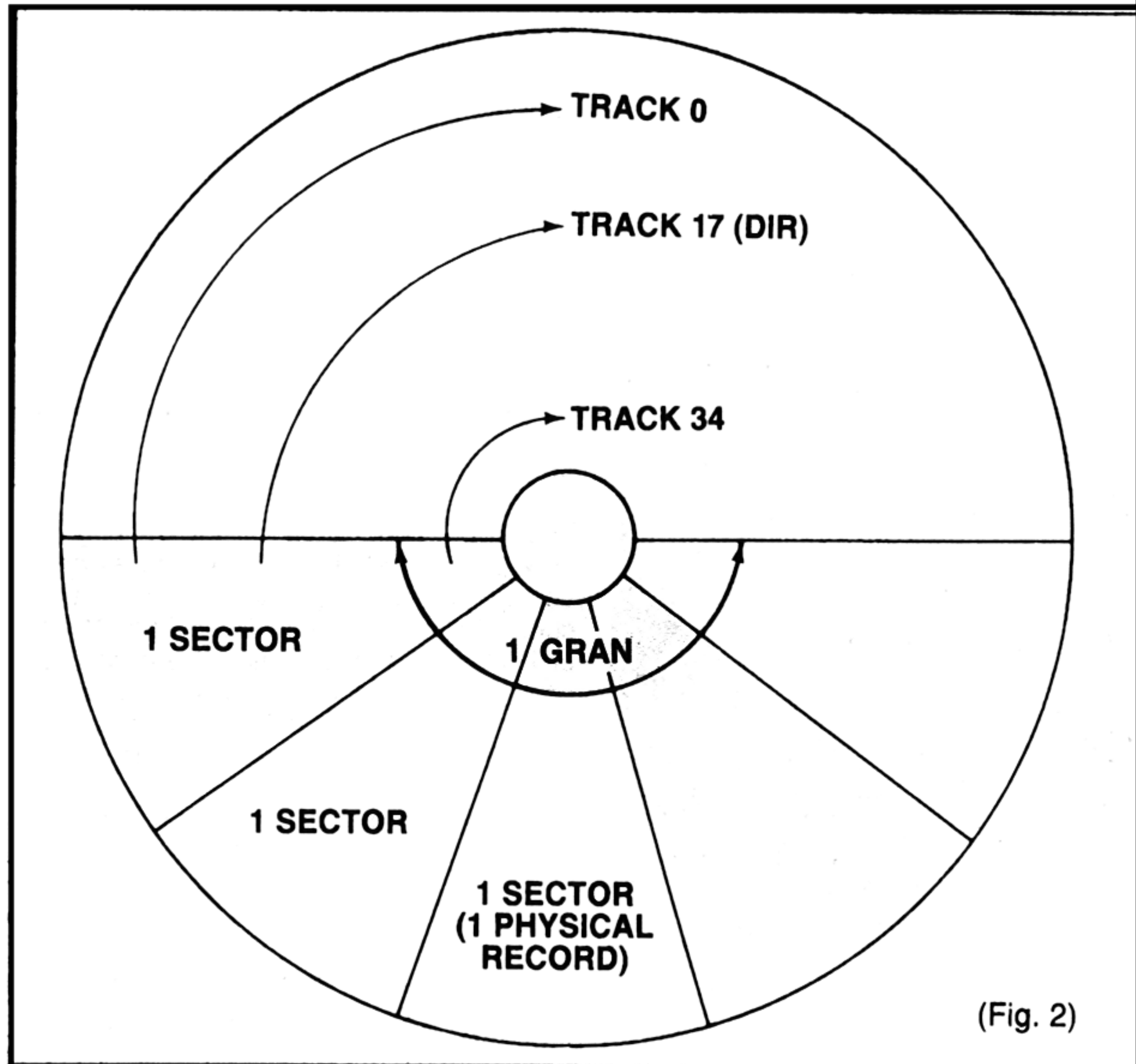
This program runs on a TRS-80 16K Level II, with Expansion Interface and Disk Drive.
Disk Instruction Course,
Cat. No. 26-2007 . . . . $29.95

BAD DISKS CAN CAUSE POSTING PROBLEM IN GENERAL LEDGER

If you have a damaged diskette, a problem may occur when you attempt to post transactions while running General Ledger. While the screen is listing the transaction numbers, an error message will appear, or the program may lock up. If you have an up-to-date BACKUP copy, you may press BREAK, and replace your Drive 1 disk with the BACKUP copy. Type **GOTO 2100** and press ENTER. This will start your posting over, without losing any data.

You should always make a BACKUP copy of your data diskette after each run. Also, it is important to make a BACKUP copy of your program diskette after each run. This is because Drive 0 contains information on the current status of your General Ledger transactions.

(Fig. 2)

DISKETTE EQUIVALENT SPACE TABLE

BYTES	SECTORS	GRANULES	TRACKS	DISK
256	1	—	—	—
1,280	5	1	—	—
2,560	10	2	1	—
89,600	350	70	35	1

A PHYSICAL RECORD IS DEFINED AS 1 SECTOR   (Fig. 1)

Word Processing

TRS-80® Model I Keyboard Reverse is Now Possible with a Simple Program

Some of you who use the TRS-80 for word processing may have had difficulties using the keyboard because the upper-lower case arrangement is the opposite of a typewriter keyboard arrangement. Here is a simple program you may use to reverse upper and lower case for letters and arrows. If you have an upper-lower case printer, this program will allow you to use it more effectively.

```
10 REM ** REVERSE KEYBOARD       50 IF A < 91 THEN A = A + 32 :
   (REVKEY) **                       GOTO 70
20 A$ = INKEY$ : IF A$ = "" THEN 20
   ELSE 30                        60 IF A < 128 THEN A = A − 32
30 A = ASC (A$)                    70 LPRINT CHR$ (A);
40 IF A < 65 THEN A = A: GOTO 70   80 GOTO 20
```

Your video display, of course, will still be all upper case. Thanks to **Carl L. Armstrong** of Winston-Salem, N.C. for this program!

IF UNDELIVERABLE DO NOT RETURN

Check the New Software Items Coming in 1980

The new 1980 Radio Shack Catalog is now available at Radio Shack stores and dealers across the country. It includes the complete line of TRS-80 Model I and Model II items. Because this catalog will be used throughout the coming year, we have listed some software items that aren't available now but will be introduced in the next few months. Below, you'll find a list of those items, and the dates they are expected to be available.

Available 11-30-79

26-1506 . . . Cassette Portfolio
26-1505 . . . Word Processor Cassette
26-1563 . . . Word Processor Disk
26-1561 . . . Time Accounting

Available 12-30-79

26-1554 . . . Accounts Payable
26-1575 . . . Real Estate V
26-1576 . . . Real Estate VI
26-1560 . . . Fixed Asset Accounting
26-1507 . . . Standard and Poor's
           Portfolio and Security
           Selection System

Available 10-30-79

26-1806 . . . Casino Game Pack
26-1706 . . . IQ Builder
26-1555 . . . Accounts Receivable
26-1558 . . . Business Mailing List
26-1557 . . . Concrete
26-1559 . . . Manufacturing Inventory
26-1574 . . . Real Estate Volume IV
26-1504 . . . Tape Payroll
26-1713 . . . Teacher-Aide

Bug Department

WOULD YOU BELIEVE A COMPOUND GOOF?

In the July Newsletter, we told you that Flying Saucers (26-1905) would not run on a 4K Level I computer, as advertised. Well, our software geniuses have made liars out of us by adjusting the program so that it now runs OK in 4K (Level I or II). So if you have a 4K system, you will be able to enjoy "Saucers," one of the fastest-paced machine language games we've seen yet!

LEVEL II MANUAL ERROR

On page 8/8 of some of the Level II Reference Manuals, the following appears near the middle of the page:

    POKE 16526,0 : POKE 16527,208
    (208 DECIMAL = 7D HEX)

This should read:
    POKE 16526,0 : POKE 16527, 125
    (125 DECIMAL = 7D HEX)

JUST FOR FUN . . .

This little program was sent to us by customer **Robin L. Salmansohn.**

```
 5 REM ** "TENSION BREAKER" **
10 REM ** RUN THIS PROGRAM AND
      THEN PRESS ANY COMBINATION
      (MORE THAN 1) OF KEYS **
15 REM ** YOU CAN SIMULATE ON
      THE VIDEO DIFFERENT GRAPHIC
      PATTERNS **
20 REM ** FOR EXAMPLE, PRESS THE
      Q, X, W KEYS AT THE SAME TIME
      AND THEN TRY PRESSING OTHER
      KEYS WITH THESE **
30 POKE 16396, 23
40 CLS: FOR N = 14336 TO 15360:
      PRINT (CHR$ (PEEK (N))); " ";:
      NEXT N: GOTO 30
```

Examples:
   BACKSPACE with S.
   7 with S.
   W with C.

Try it!

NEW TRSDOS 2.2 AVAILABLE

The new TRSDOS 2.2 is now available. You may get it free if you have already purchased TRSDOS 2.1.

The store from which you purchased your 2.1 should have your 2.2 disk. If not, you may contact our Center.

Toll-Free Number:
(800) 433-1679

DISK PAYROLL TAX TABLES

Attention Disk Payroll users! Do you live in one of the six states whose tax tables are calculated in the program (Arizona, California, Illinois, Kansas, New York, New Mexico, Massachusetts)? If your state tax table changes, you will need to change your program.

For information, call Radio Shack Computer Services.

Toll-Free Number:
(800) 433-1679

CTR-80 Owners!

If your recorder has a stamped date code of "2A9" (Feb. 1979) or earlier, we have found that under certain conditions, when the cassette recorder is stopped in the middle of the loading of a program, it can place a noise spike on the tape, thereby rendering it unusable.

There is a simple and fast modification which can be made by a Radio Shack service center which will prevent this from happening. Contact your local store to arrange for service.

NO BACK ISSUES AVAILABLE

Sorry, but there are no back issues of the Microcomputer Newsletter available. The Newsletter is available for TRS-80 owners inside the U.S.A. only. (Our computer accepts only U.S. addresses.)